

APPLICATION AND CERTIFICATE FOR PAYMENT AIA DOCUMENT G702 (Instructions on reverse side) PAGE ONE OF 6 PAGES

TO OWNER: POUGHKEEPSIE CITY SCHOOL DISTRICT
11 COLLEGE AVE
POUGHKEEPSIE, N.Y. 12603

PROJECT: POUGHKEEPSIE CITY SCHOOL DISTRICT
DISTRICT WIDE ALTERATIONS
CONTRACT #6 ELECTRICAL

APPLICATION NO. 1
PERIOD TO: 1/6/2004 X
PROJECT NOS.: POUGHKEEPX

Distribution to:
☐ OWNER
☐ ARCHITECT
☐ CONTRACTOR
☐
☐

FROM CONTRACTOR: HUDSON VALLEY ELECTRICAL CONSTRUCTION & MAINTENANCE INC.
523 SOUTH RD
MILTON N.Y. 12547

VIA ARCHITECT: SHARON/MIKE

CONTRACT DATE: 9/1/2003

ELECTRICAL

795-1135

PALOMBO GROUP
RHINEBECK ARCHITECTURE AND PLANNING PC

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM \$ 977,777.00
2. Net change by Change Orders \$ 0.00
3. CONTRACT SUM TO DATE (Line 1 + 2) \$ 977,777.00
4. TOTAL COMPLETED & STORED TO DATE \$ 170,142.50
(Column G on G703)
5. RETAINAGE: 8,507.13
 - a. % of Completed Work \$ 5.00 (Columns D + E on G703)
 - b. % of Stored Material \$ (Column F on G703)
 - Total Retainage (Line 5a + 5b or Total in Column I of G703) \$ 8,507.13
6. TOTAL EARNED LESS RETAINAGE \$ 161,635.37
(Line 4 less Line 5 Total)
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT
(Line 6 from prior Certificate) \$
8. CURRENT PAYMENT DUE \$ 161,635.37
9. BALANCE TO FINISH, INCLUDING RETAINAGE 816,141.63
(Line 3 less Line 6) \$

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner		
Total approved this Month		
TOTALS		
NET CHANGES by Change Order		

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR: HUDSON VALLEY ELECTRICAL CONSTRUCTION

By: Sharon Luv
NEW YORK

Date: 1.7.04

State of: ULSTER

County of:

Subscribed and sworn to before me this 7 day of

JANUARY 2004

SUSAN B. PARTINGTON
Notary Public, State of New York
Reg. # 01PA6013362
Qualified in Ulster County
Commission Expires Sept. 14, 2004

Notary Public:

My Commission expires:

Susan B. Partington

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 161,635.37

(Attach explanation if amount certified differs from the amount applied for. In all figures on this Application and on Continuation Sheet that are change conform to the amount certified.)

ARCHITECT: PALOMBO GROUP
By: Sharon Luv
Date: 2/3/04

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are will prejudice to any right of the Owner or Contractor under this Contract.

Exhibit 6 (6 pages)



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G702-1

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B.2
FROM
5-20-2004 12:42PM

CONTINUATION SHEET

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			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
00.018	DATA CKTS LAB	1,450.00						1,450.00	
00.019	DATA CABLE MAT	470.00	0			0	0	470.00	
00.020	DATA CABLE LAB	1,450.00						1,450.00	
00.021	TEST/LABLE MAT	100.00						100.00	
00.022	TEST/LABLE LAB	520.00						520.00	
00.023	DATA RACEWAYS MAT	1,000.00						1,000.00	
00.024	DATA RACWAYS LAB	10,000.00						10,000.00	
00.025									
00.026	SMITH SCHOOL								
00.027	DEMO	9,750.00		4,875.00		4,875.00	50	4,875.00	243.75
00.028	DUMPSTER	1,500.00		750.00		750.00	50	750.00	37.50
00.029	FIXTURES MAT	60,740.00		30,370.00		30,370.00	50	30,370.00	1,518.50
00.030	FIXTURES LAB	35,850.00		17,925.00		17,925.00	50	17,925.00	896.25
00.031	SENSORS MAT	3,000.00		1,500.00		1,500.00	50	1,500.00	75.00
00.032	SENSORS LAB	2,000.00		1,000.00		1,000.00	50	1,000.00	50.00
00.033	WATER COOLER MAT	400.00	0			0	0	400.00	
00.034	WATER COOLER LAB	2,080.00		564.20				2,080.00	
00.035	WHEEL CHAIR LIFT MAT	250.00						250.00	
00.036	WHEEL CHAIR LIFT LAB	520.00						520.00	
00.037	TEST / LABEL MAT	100.00						100.00	
00.038	TEST / LABEL LAB	520.00						520.00	
00.039									
00.050	MIDDLE SCHOOL								
00.060	DEMO	35,000.00						35,000.00	
00.061	DUMPSTER	5,000.00						5,000.00	
		0	0	0	0	0	0	0	0



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			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD			% (G ÷ C)		
00.062	FIXTURE MAT	208,220.00						208,220.00	
00.063	FIXTURE LAB	105,500.00						105,500.00	
00.064	SENSORS MAT	10,000.00				0	0	10,000.00	
00.065	SENSORS LAB	6,500.00						6,500.00	
00.066	CLOCKS MAT	14,000.00						14,000.00	
00.067	CLOCKS LAB	7,150.00						7,150.00	
00.068	RACEWAYS MAT	1,500.00						1,500.00	
00.069	RACEWAYS LAB	6,000.00						6,000.00	
00.070	FIXTURE WHIPS MAT	1,000.00						1,000.00	
00.071	FIXTURE WHIPS LAB	1,250.00						1,250.00	
00.072	AC WIRING MAT	500.00						500.00	
00.073	AC WIRING LAB	2,600.00						2,600.00	
00.074	PANEL MAT	1,500.00						1,500.00	
00.075	PANEL LAB	2,600.00						2,600.00	
00.076	DEVICES MAT	400.00						400.00	
00.077	DEVICES LAB	600.00						600.00	
00.078	UV UNITS MAT	200.00				0	0	200.00	
00.079	UV UNITS LAB	1,260.00						1,260.00	
00.080	DATA RECEPT MAT	1,000.00						1,000.00	
00.081	DATA RECEPT LAB	8,600.00						8,600.00	
00.082	TEST & LABEL MAT	200.00						200.00	
00.083	TEST & LABEL LAB	1,260.00						1,260.00	
00.084	DATA CABLE MAT	1,000.00						1,000.00	
00.085	DATA CABLE LAB	6,000.00						6,000.00	
00.086	DATA RACEWAY MAT	3,000.00						3,000.00	
		0	0	0	0	0	0	0	0



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			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD			% (G ÷ C)		
00.130	DATA RECEPT MAT	900.00						900.00	
00.13	DATA RECEPT LAB	2,600.00						2,600.00	
00.135	FIRE ALARM RACEWAY	3,000.00						3,000.00	
00.136	FIRE ALARM RACEWAY LAB	11,000.00						11,000.00	
00.137	FIRE ALARM WIRE MAT	1,500.00						1,500.00	
00.138	FIRE ALARM WIRE LAB	7,800.00						7,800.00	
00.139	FIRE ALARM LAB	2,600.00						2,600.00	
00.140	DEMO	14,050.00						14,050.00	
00.14	DUMPSTER	2,400.00						2,400.00	
00.142	TESTING	2,500.00						2,500.00	
00.143	LABEL	500.00						500.00	
00.001	BOND	10,500.00		10,500.00		10,500.00	100	0	525.00
00.002	INSURANCE	8,782.00				0	0	8,782.00	
00.003	MOBILIZATION	25,000.00		6,250.00		6,250.00	25	18,750.00	312.50
00.004	SUPERVISION	25,000.00		6,250.00		6,250.00	25	18,750.00	312.50
00.005	TOOLS	5,000.00	0			0	0	5,000.00	
00.006	CLOSEOUT	5,000.00		81677.50		0	0	5,000.00	
00.007									
00.008	CLINTON SCHOOL								
00.009	DEMOLITION	12,500.00				0	0	12,500.00	
00.010	DUMPSTER	1,500.00				0	0	1,500.00	
00.011	FIXTURES MAT	64,090.00		32,045.00		32,045.00	50	32,045.00	1,602.25
00.012	FIXTURES LAB	37,150.00				0	0	37,150.00	
00.013	SENSORS MAT	4,500.00				0	0	4,500.00	
00.014	SENSORS LAB	2,500.00				0	0	2,500.00	
		0	0	0	0	0	0	0	0

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POUGHKEEPSIE CITY SCHOOL DISTRICT

TECHNOLOGY PLAN

1998	Original Plan
2000, 2001, 2003	Revision I, II, III
2004-2007	Revision IV

Based on a plan originally developed by Karen Markeloff

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- B. How programs will be developed in collaboration with existing Adult Literacy Service providers.
 - 1. Sustained Professional Development
 - 2. Training resources Projected Timetable and Projected Costs
- C. Software and Print Support Resources
- D. Projected Timetable and (G) Projected Costs
- E. How the LEA will coordinate technology provided with other grant funds available for technology.
- F. Involvement of parents, business leaders and community leaders in plan development.
- G. How the acquired instructionally based technologies will help the district.
 - A. How acquired technology will help promote equity in education to support State content and student performance standards.
 - B. How instructional based technologies will improve teacher, parent and student access to the best teaching practices and curriculum resources.

H. Process for on-going evaluation.

A. How the technologies will be integrated into the curriculum.

B. Will affect student achievement and progress toward meeting the National Standards.

I. How will the public libraries be engaged in the planning process?

J. An explanation of the involvement of site based teams in the development of the plan.

K. Bibliography

I. Mission Statement

Poughkeepsie City School District Mission Statement: The mission of the Poughkeepsie City School District is to ensure that each child demonstrates high levels of academic performance and shows emotional and social growth and development .

We will provide students with diverse and empowering experiences in an environment that supports and values learning.

As a result, each child will advance toward his/her unique potential.

- Developed 1992 by the District Steering Committee

The mission statement allows, and even demands that technology be a strong part of district offerings. We believe:

1. that technology can support each child's attaining high levels of academic performance;
2. that technology can provide academic, recreational and therapeutic means to insure that each child demonstrates social and emotional growth and development;
3. that through technology students gain access to diverse and empowering experiences they might otherwise not have;
4. that as a result of the applications of technology in the previously identified categories, we will be able to insure that each child reaches his/her unique potential.

II. Vision Statement

The Poughkeepsie City School District is an exemplary district committed to the belief that all children can and will learn at a high level that enables them to compete in and contribute to a diverse global society.

Our academic programs challenge all students to actively engage in exciting and varied learning experiences that enable them to earn recognition for their academic achievement.

Our staff effectively promotes and expects student success.

All of our students develop deep and enduring value for the contributions of people from diverse cultural and socio-economic backgrounds and those of differing ages, genders and abilities.

The Poughkeepsie City School District engages parents and the community in meaningful support and reinforcement of academic achievement for all students.

Board of Educational Goals

- By February 2004, to analyze district extra classroom learning experiences and offerings to ensure that they appeal to a wide range of student talents, interests and needs.
 - By June 30, 2004, increase student average attendance to 97%.
 - By June 30, 2004, increase staff average attendance to 97%.
 - By June 30, 2005, ensure a 100% graduation rate for the 2001 Poughkeepsie High School cohort and that all graduates attain a Regents diploma.
 - By June 30, 2005, train all staff to align instruction with state standards and district goals.
 - By 2005/06, increase the district-wide mean scaled score on the 4th and 8th grade ELA and math assessment by 20% over 2001/02 baseline scores.
 - By 2005/06 increase the pool of qualified minority candidates for teaching positions by 20% over the 2003/04 baseline figure.
 - By January 2006, complete planned building renovations and additions on budget.
 - By 2007/08, ensure all 3rd grade students demonstrate achievement in reading, writing and mathematics that is at or above grade level.
-

Board Operational Goals

- By August 31, 2003, review district travel policy.
- By September 15, 2003, analyze district fiscal management practices and policies.
- By October 15, 2003, review and update district technology plan.

- By November 30, 2003, review policy on recruitment and hiring of staff.
- By December 15, 2003, complete district policy manual revision process.
- By December 15, 2003, and February 28, 2004, review 10-week curriculum initiatives and plans in preparation for budget.
- By January 30, 2004, review district special education plan.
- By February 2004, identify a regular process for ongoing policy review and update.

III. Technology Background and Needs

Background

Poughkeepsie City School District has long been committed to the use of instructional technology. As early as 1905, minutes of the Board of Education record purchase of a stereopticon and the delivery of magic lantern shows. In 1969, when the Poughkeepsie Middle School, the district's newest building was constructed, a fully equipped television studio and a building wide closed circuit television system were installed. The district also owns its own telephone system.

In 1978, the district purchased its first micro computer when a building principal spent his entire textbook money on a single machine. By the 1985/86 school year, the district owned around 65 computers of various brands and capacities. Beginning in the 1986/87 school year, the district began to make a major investment in technology. Between 1987 and 1990, the district purchased over 330 computers, established building wide computer networks and computers laboratories in two elementary schools and enhanced computer laboratories in other buildings. In October, 1989, the district was tapped by the National School Boards Association as a site for an Institute For the Transfer of Technology to Education (ITTE) conference on Technology and Inner-City Youth.

As a district that made major and early investments in technology, we have seen much of our equipment move from state of the art to elderly during the 1990's. We have, however, established a policy and practice of relocating machines that are satisfactory for use by staff and students with less knowledge and/or need to have sophisticated equipment and we provide the new machines to those who have proven they have the need for them as a result of their knowledge of the capabilities of the machines. This strategy requires careful planning and on-going analysis of which machines are where. The district maintains an on-going inventory of every piece of media equipment in the district and its assigned location, with records of computers purchased each year back to 1982/83 and their assigned locations.

During the 1994/95 school year, district staff were invited to submit competitive and entitlement proposals for a \$250,000 technology up-grade from reserve funds. Each building received a flat amount of funding to accomplish general technology up-grades and individual teachers were able to compete for classroom computer clusters based on their development of competitive proposals. Staff members had to promise to take technology in-service training prior to receiving their new equipment as a condition of delivery.

Between 1996 and 1998, an Internet Steering Committee developed an acceptable use policy for the Internet as well as written recommendations for Internet use in the classroom. In 1997, the district Technology Planning Task Force produced the first draft of 3.5 million-dollar comprehensive technology plan. A strategy for funding this plan was not adopted, however an annual allotment of \$50,000 was added as a districtwide technology seed money budget line. During this period, however, all district librarians are equipped with electronic on-line card catalogs and circulation systems. All libraries also have at least one computer with Internet access. A scope and sequence library skills checklist which includes technology applications is in place.

In 1998, District applied for E-Rate funding to connect all rooms in the high school via Ethernet networking, and connect the school to the Internet via T-1 line. A technology implementation plan was developed which scaled down the comprehensive plan ninety percent to be fundable within existing budget parameters. The plan supported pilot technology projects, very slow infrastructure growth, and no promise of equity of access. Since 1986, staff had taken more than 62 different professional development courses on the applications of technology to education. In 1998, the first "project design studio" model was developed, in which teachers spent 5-7 weeks developing model technology integration projects, with content and technology guidance. Districtwide Technology "Seed Money" was used to fund computer hardware "mini-grants" to pioneer teachers who developed and intend to implement these projects.

In 1999-2000: E-Rate funded the wiring of the high school. Computer hardware allocations (based on state formulas) rose from \$24,000 to \$42,000 for the entire district. Despite the addition of technology turn-keys, an increasing network administration workload cut significantly into district technical support capacity. \$15,000 of the Seed Money budget was spent for ISDN Internet access at the middle school; \$35 has been used to front the wiring of the high school and awaits E-Rate reimbursement as of this writing. [It is hoped that once reimbursement is obtained, the money can be used to purchase portable computers for technology pioneer teachers involved in the MST 2000 project design course.]

In 2000-2001: The wiring of the middle school was completed for all rooms via Ethernet networking, E-Rate did not fund the wiring. The wiring of all elementary schools is planned and projected to be completed by September 2001. Work will be completed by parent volunteers and community members. ISDN Internet access is eliminated since the whole district is connected via T1 lines.

In 2002-2003, PCSD disconnects from the Dutchess County BOCES Wide Area Network. More than adequate, cost effective, technical support is provided through Tech Central's personnel.

In 2003, IBM introduced a collaborative effort with Marist College, NY and Poughkeepsie City School District to supply a combination of software, hardware, and services to enable a digital media infrastructure that supports the creation, storage, and exchange of digitized content using the Internet. The project called "Greystone" went live in September 2003 for the start of the fall semester. The key goals for Marist College and Project Greystone included:

- Understanding effective teaching and instructional design in e-learning;
- Evaluating content management and course management systems to support e-learning;
- Providing content management and course management systems to internal and

external constituencies using an e-utility or computing on-demand model;

- Assuring that all e-learners become a part of the Marist community and develop a sense of loyalty to the College.

"The ability to access and interact with content is an essential component of the teaching and learning process. New technologies developed by IBM and Cisco are providing us with opportunities to enhance how professors teach and students learn. The rich media distribution network that we are using, as part of our new digital media infrastructure, is a distributed platform for creation, management, and distribution of digital media applications. The results of this collaboration can be useful not only to the higher education community, but also to enhance the way corporations and government train and educate their employees."

-- Dr. Dennis J. Murray, President, Marist College

Technology Staffing

The district hired a district Coordinator of Library/Media in 1982. In 1985, the district employed a Director of Library/Media and Instructional Technology to oversee instructional technology applications, supported by a clerical position and two computer technicians to handle trouble shooting, repairs and installations. In the late 1980s, the district adopted an IBM A/S 400 minicomputer for data processing, managed by a Director of Information Services, a part-time programmer and a Special Projects Assistant support the administrative computer functions.

There are currently four elementary computer teachers, three elementary computer teaching assistant, and two computer teaching assistant in the High School and Middle schools respectively, who are assigned to provide instructional technology program support. Every building has at least one computer laboratory with many classrooms also containing one or more computers. The Middle School and High School have several computer laboratories which are used for various purposes.

In 2000, a Network Administrator's position was established and was complemented by a Senior Microcomputer and a Microcomputer Technician.

In 2003, a Microcomputer Technician position is added to provide A/V support and needed technical coverage in the schools.

In 2004, a Technology Trainer/Consultant is recruited with primary responsibility to train staff in the use of e-mail and other district-wide software. Additionally, a Web Site Developer/Consultant was recruited in order to develop and maintain www.pcsd.k12.ny.us as a parent-teacher-community communication tool. Both positions are funded through Title II-A.

In 2004, Poughkeepsie City School District, in cooperation with IBM and Marist College begin to develop three web portals to be used by teachers, students, and parents. Known as the Greystone Project, Poughkeepsie High School teachers and students have the opportunity to take classes online for college credit. IBM provides the funding for the purchase of equipment, software, and manpower. A team of volunteering high school students is recruited to develop the student portal. To support this effort the need for high level technical expertise is evident. Initial set up of equipment as well as its regular maintenance is necessary.

Needs Assessment

Although Poughkeepsie City School District has done much to provide staff and students with access to new and emerging technologies and has provided significant opportunities for professional development activities for staff regarding the operation and application of various technologies, we need to establish a new focus if we are to satisfactorily implement our vision of technology.

Based upon a comparative analysis of our current status and the vision we hold for the future, certain needs have become apparent:

1. We need to improve student access to technology throughout all facets of the educational program and beyond the school doors.
2. We need to improve on communicating to parents school and student related information.
3. We need to improve the organization of available technology so that it can best be used to maximize student engaged learning and involve students in collaborative projects.
4. We need to improve the inter-operability of the technology available to students by making data exchange among diverse technologies and formats possible, allowing users to access third party hardware/software and insuring that access is transparent.
5. We need to provide age appropriate technology across grade levels as well as vertically that will offer learning opportunities that stimulate thought and inquiry, provide students access to simulations and real world learning, allow multiple points of entry and provide different types of information.
6. We need to provide staff and students with access to diverse technological tools, media and project design supports that enable students to define their own learning and teachers to facilitate and track learning progress.
7. We need to provide technology that can offer educators and students a full range of services involving integrated software packages which address tutorial, research, presentation applications, etc.
8. The current variety of partial and wireless network connectivity solutions need to be upgraded to a consistent high-bandwidth solution that will allow usage of online resources as well as video conferencing. With e-rate support, the feasibility of such a solution will be possible during the 2004-2005 school year. The decision will be based on the community passing the district budget, and New York State aid.
9. Currently the district is using an outdated file server that acts as the district DHCP server. This server must be replaced by two "newer" computers that will "balance" the district load and operate efficiently. The e-mail server must be replaced by a newer server that will meet the growing district needs.
10. Network wiring and installation of appropriate data transmission equipment for three district additions. The High School, Morse Young Child Magnet, and

Krieger Elementary School will undergo major renovations with several classrooms added to each building. Appropriate wiring and network equipment has been planned for each building. The High School will have a new Math-Science-Technology wing added to it. Wired and wireless classrooms will afford teachers and students state-of-the-art technology. Krieger Elementary School has several classroom space added as well as a new library and computer room. Wired and wireless networks have been planned. Morse Young Child Magnet will receive several classrooms and a computer room.

Budget

Funds for building computer upgrades, electrical upgrades to accommodate wireless access points, and additional network wiring have been set aside as part of the 2003-2004 27 million dollar capital project. Additional funds will be provided to purchase software and appropriate hardware to satisfy classroom and building needs from the Media Central Technology budget.

Additional computer equipment will be provided by IBM as part of the Greystone Project. The development of the three portals is IBM's responsibility. All software and equipment purchases and upgrades as well as the development effort is the responsibility of IBM. The capital improvement project has allocated funds for the new high school Math/Science and Technology wing.

Currently, \$12,000 has been set aside by Media Services for district-wide Internet access. Content filtering accomplished with Surf Control software purchased by Media Services. The Media Services budget allocates funds for such district-wide initiatives as: building-wide software (Compass etc.), equipment maintenance, and software upgrades.

IV. Goals

COMMUNICATION: Use technology to communicate effectively and creatively		
STATEMENT	STUDENT	STAFF
1. Communicate through application software.	<ul style="list-style-type: none"> • Create well-written documents, spreadsheets and databases • Use computer-assisted design tools. 	<ul style="list-style-type: none"> • Create well-written documents, spreadsheets and databases for instruction. • Use computer-assisted design tools for instruction.

1. Participate in Graystone Project	<ul style="list-style-type: none"> Students will take advantage of online college level courses. 	<ul style="list-style-type: none"> Teachers will take advantage of free online graduate-level courses.
2. Communicate visually, graphically, and artistically through multi-media presentations. 3. Communicate through networks and telecommunication.	<ul style="list-style-type: none"> Use a variety of technology (computers, projection devices, scanners, calculators, copiers, laser disc players, video and audio equipment, camcorders, video-editors, still and video cameras) Use computer networks and telecommunications (electronic mail, voice mail, bulletin boards) Use telecommunications (satellite, modems, classroom telephones, FAX) 	<ul style="list-style-type: none"> Use technological systems to communicate within the building throughout the district and within the community. Use network access to link up with other educators on specific topics through electronic bulletin boards. Increase communication with parents by phone and through computer links.

INFORMATION LITERACY:

Use technology to access and retrieve, interpret and evaluate visual and auditory information.

1. Access and retrieve electronic information.	<ul style="list-style-type: none"> Use prescribed information search strategies to retrieve information efficiently and accurately. (Big Six Skills) Use on-site electronic resources (encyclopedias, catalogs, indexes, hand-held learning tools). Use networks to access information (on- line databases, libraries, electronic bulletin boards, Internet sites). Use telephone, modems and fax machines to send and retrieve information. 	<ul style="list-style-type: none"> Access current information to supplement teaching resources with electronic sources and on-line services. Utilize quality software programs which allow teachers to more easily evaluate student performance and present information in an easy to read format.
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	<ul style="list-style-type: none"> • Use video conferencing equipment to communicate with others. 	
1. Access online media available through Greystone Project.	<ul style="list-style-type: none"> • Will experience a variety of online media. 	<ul style="list-style-type: none"> • Will incorporate into the various curricula online media available through the Greystone Project.
2. Evaluate performance	<ul style="list-style-type: none"> • Students will assess their progress with software having reporting options against specific criteria established by instructional staff. 	<ul style="list-style-type: none"> • Evaluate individual work and class progress with reporting options on software programs. • Review portfolios of student work.
<p align="center"><u>PRODUCTIVITY:</u> Use technology and its applications to maximize productivity and skill development.</p>		
1. Develop basic technology skills.	<ul style="list-style-type: none"> • Select and access technology appropriate to needs. • Use correct starting and exiting procedures. • Develop keyboarding skills. • Operate peripheral devices. • Use technology independently and cooperatively. • Use technology safely and ethically. 	
2. Use technology to enhance productivity.	<ul style="list-style-type: none"> • Use technology to develop learning and workplace skills. • Use technology to support the development of process skills in all 	<ul style="list-style-type: none"> • Increase teaching time by using management programs to streamline grades, attendance, lunch count, etc. • Utilize report card

	<p>content areas.</p> <ul style="list-style-type: none"> • Develop strategies for problem solving, critical and creative thinking. • Create high quality multi-media products. • Develop creativity and innovation through the use of technology. 	<p>programs, databases, and spreadsheets for management of student data.</p> <ul style="list-style-type: none"> • Prepare high quality teaching materials quickly.
<p>1. Use wireless networks effortlessly.</p>	<ul style="list-style-type: none"> • Use wireless technology in the classroom where clusters of computers are not easily accessible. 	<ul style="list-style-type: none"> • Use wireless networks to demonstrate, and take advantage of, a variety of online tools as well as access internal servers.

V. Technology Plan Implementation

Network Infrastructure

Smith Humanities Magnet School is connected to the High School with a Proxim wireless solution operating in the 4Kb/sec. range. The remaining elementary schools and the Circle of Courage, are wired with 0.5 T1 lines to the High School. The Middle School and Administration buildings are connected to the High School with a Proxim wireless solution operating in the 56Mb/sec range. The district WAN forms a star configuration with the High School as the gateway to the Internet Service Provider. Developing a local fiber optic star configuration will afford higher bandwidths and faster access to media rich content.

Computer Equipment and Software:

Every building is equipped with:

1. A local area network (LAN) for data and Internet distribution as well as communication.
2. A file server to accommodate students' and teachers' needs.
3. A connection to the district's voice and data network, thereby allowing for access to the network from any classroom, office or networked work station in the District.
4. Network computers equipped with management, communications and application software (see Configurations Narrative).
5. A closed circuit television system (CCTV) including receivers, VCR's and permanent mounts.

6. An electronic card catalog (Follet) accessible to students in the library in each building with optional access for all networked work stations.
7. Software programs which are closely aligned with curricular objectives that provide uniform experiences for teachers and students.
8. In the building upgrades electrical wiring was placed to accomodate wireless network access points.

Located in the High School is the Web and e-mail server, and the content filtering server.

Hardware Configurations	Purpose
One networked multimedia computer per classroom.	Classroom access to LAN, CD-ROMs; Teacher Administration.
One Computer Display Projector per grade.	One-Computer Classroom Uses (Presentations, Simulations, Group Analysis, Partner Classrooms, Virtual Trips).
All schools have been wired for Ethernet	Students can save files to a central file server, access online resources.
High school, Krieger Elementary, and Morse Young Child Magnet: each building addition will have installed Ethernet wiring with connectivity to the exsisting building.	Teachers will be able to access attendance and grading online software. Students and teachers will access district-wide servers and resources.

Staffing:

The Middle School has two computer teachers and three teaching assistants. The remaining schools have one teaching assistant. The responsibilities of the computer staff persons will include:

- providing assistance, resources, and ongoing training to classroom teachers
- assisting in the delivery of the district technology curriculum
- being a key member of the site based technology team responsible for scheduling meetings and developing agendas with the cooperation of the other members of the team.

The computer teacher's primary responsibility will be to train and assist the classroom teacher with integrating technology with the curriculum. This person may contact students directly, but in a secondary support role to the classroom teacher or to deliver district technology curriculum. The district will provide extensive training for this person including but not limited to courses dealing with the delivery of lessons using technology. Training on the operation of various peripherals (printers, scanners, cameras) will be also be provided.

Generate Site Based Delivery Options: Site based delivery options will be established by the building level and technology teams who will bring continuous focus to technology initiatives. The work of these teams will be developed around a planning cycle of program needs and skills necessary to attain those goals. Outcomes will be identified as specific competencies and experiences to achieve standards and prepare students for life long

learning.

Equipment and Software

Every School:

1. Has at least one computer lab which is able to provide individual access for each student within the parameters of the largest class. Larger schools are provided with multiple labs
2. Be provided with clusters of classroom computers on an as need basis determined by the school technology team and driven by the curriculum.
3. Be provided with portable computer devices for take home assignments and other uses within the school. (ie; science experiments) Currently Morse Young Child Magnet, Krieger Elementary School, and the Middle School, have appropriate electrical infrastructure to accommodate wireless access points.

Recommended Hardware Configurations	Purpose
One Word Processing Lab per school with afterschool availability.	All Students Learn/Apply Word Processing for Higher Quality Writing/Reports. This lab will be used for in-services and teacher training.
One Full-Featured Computer Lab per intermediate/secondary grade, one per three primary grades	All Students Learn/Apply Productivity Software (Desktop Publishing, Spreadsheet, Database, Graphics, Presentation Software) to Classwork.
Permanent Classroom Clusters of 4-6 desktop systems, plus peripherals, in each science classroom.	MST Activity (meeting state standards, preparing students for PHS MST activities like Unified Science, ASR).
One Portable Wireless Cluster of 5 computers per middle school grade, one per elementary school	Integration of technology within the classroom for flexible learning environments and cooperative learning activities .
One Portable Wireless Cluster of 14 Laptops per high school grade	Integration of technology within the classroom for individualized work emulating real-world practices.
One Teacher Training Lab per elementary school.	Continuous series of technology professional development opportunities and practice.
5 Portable Computers per elementary school , 10 per secondary school for teacher or administrator loan.	Teacher Administration, Class Materials Production, and Professional Development. <u>What should we expect our teachers and administrators to be able to do, once we give them portable machines and appropriate training?</u>

Staffing:

Every school will establish one (1) permanent full time instructional technology teacher. The responsibilities of this staff person will include;

- providing activity design support, assistance, resources, and ongoing training to classroom teachers

- delivering the district technology curriculum
- being a key member of the site based technology team responsible for scheduling meetings and developing agendas with the cooperation of the other members of the team.
- Technical personnel for the installation of switches and routers as well as to maintain the growing infrastructure of various data transmitting devices.

The computer teacher's primary responsibility will be to train and assist the classroom teacher with integrating technology with the curriculum. This person may contact students directly, but in a secondary support role to the classroom teacher or to deliver district technology curriculum. The district will provide extensive training for this person including but not limited to courses dealing with the delivery of lessons using technology. Training on the operation of various peripherals (printers, scanners, cameras) will be also be provided.

Professional Development

Staff members will be provided with on-going updated training to best utilize technology in an educational setting. All staff members will be provided with technology training, consistent with a level of competency, for tasks required by classroom teachers including but not limited to:

- Introduction to networked computer operating systems
- Using basic software that improves productivity and enhances collaboration.
- Use of application software to support educational goals.
- New teacher introductory technology training

The Technology Trainer will develop and maintain a technology training schedule. Teachers will be notified about this via e-mail as well as district-wide postings. The community will be provided with information sessions about the district technology program using various means of outreach; newsletter, continuing education, BOCES, cable television, and others, as appropriate.

VIII. Critical Issues of Technology Plan

A. Incorporation of Technology into Curriculum

The technologies to be acquired are identified throughout the plan. In summary form, they include:

1. Increased Internet access. The current 0.5 T1 bandwidth of the elementary schools is barely sufficient. This Technology plan calls for an drastic increase in bandwidth. Having a higher bandwidth will allow for access to the IBM/Marist resources as well as video teleconferencing.
2. Increased number of computers in classrooms. Through the district technology budget, appropriate funds are allocated to provide for small clusters of computers in all elementary schools.
3. Computers that can go home with students.

4. Increased access to video media including videoconferencing.
5. Increased technologies used for therapeutic purposes.
6. Technology to support large group instruction.

Through concentration on computers and other related technology serving as problem solving tools for student work groups, the idea is total curriculum integration. Expanded applications of information technology, that will improve presentation skills and staff training will serve to accomplish enhanced integration.

Incorporating technologies into the curriculum to enhance teaching training and student achievement:

B. How programs will be developed in collaboration with existing Adult Literacy Service providers:

A major focus of the technology plan is the emphasis of providing computers that students at various levels can take home and have their parents work with them on. This will assist in promoting increased adult literacy. The district also is collaborating with the Adult Literacy Volunteers program through it Even Start grant and holds a grant from the Readers; Digest Foundation that enables Literacy Volunteers to provide expanded programs. GED classes are taught on-site in three of our schools and technology support is available for those attending evening classes.

B.i. Sustained Professional Development

Poughkeepsie City School District offers staff development courses that help teachers integrate technology into the curriculum. Staff development that truly changes classroom practice occurs when a staff member practices new techniques and methodologies over time. A Technology Trainer/Consultant has been recruited to assist in the training effort.

We will continue to support training by offering sustained course work for in-service credit, consultative arrangement and by offering more intensive training to computer teachers, turn-key trainers, and teaching assistants which will enable them to share their knowledge and provide classroom-based demonstration lessons.

Teachers and students will have the opportunity to attend online Marist courses as part of the Greystone Project. Teachers and students will receive college credit for each of these classes. Course offerings is controlled by Marist College and IBM.

B.ii.Training Resources

A list of some of the sources of on-going training and technical assistance available to schools, teachers and administrators include:

- As part of the Greystone Project, Marist College provides, free college level courses to teachers and students. These courses follow the Marist schedule.
- Dutchess BOCES
- The Mid Hudson Regional Information Center at Ulster County BOCES
- Vendor training available from Apple Computer Company, IBM
- Collaborative endeavor with Mid Hudson Library System through the Childrens Library
- A network of experienced internal staff, many of whom have made presentations at

- conferences, offered workshops and won awards in the past.
- Possible support from the Readers Digest Foundation, which is currently funding two projects in the district, one of which involved Literacy Volunteers.
- Training purchased from external consultants such as the National Urban Alliance and Ten Sigma and Apple Computer.
- Internet resources that provide tremendous opportunities for personalized professional development and growth

C. Software and Print Support Resources

A description of the supporting resources such as services, software and print resources, which will be acquired to ensure successful use of technologies.

Students and staff should be able to easily exchange data among diverse formats and technologies and the technology should be sufficiently transparent that the staff and students do not need to know how something works but can quickly sit down and use the material.

Some of the kinds of print and software resources that will be acquired and/or updated to support the plan include:

Software for:

- model exploration, simulation and visualization
- virtual reality environments
- hypertext and hyper-media environment
- database construction and manipulation
- library access, digital library
- graphics and CAD, robotic
- multi-media integration/presentation
- desktop publishing
- e-mail, computer conferencing, tele-mentoring, and teleconferencing
- drawing and painting, animation
- instructional management
- spreadsheets and charts

Human support resources for the plan include:

- Director of Library/Media/Technology
- Director of Management Information Systems
- One Network Specialist
- Three microcomputer technicians
- One clerical
- One Special Projects Assistant
- One district-wide Technology Trainer/Consultant
- One Web Site Coordinator/Consultant

- One part-time programmer
- External consultants as hired on an ad hoc basis to perform particular functions
- Five computer teaching assistants
- Additionally, computer network engineers will be recruited to assist district staff with installation, configuration, and maintenance of routers, switches, and wireless access points.

D. Projected Timetable and (G.) Projected Costs

Addendum 1 provides in table form, the projected costs for phase in of the elements of the plan and estimates of the costs in 1998 dollars.

E. i. How the LEA will coordinate technology provided with other grant funds available for technology.

It is somewhat difficult at this stage to thoroughly understand the relationships among various grant programs that may support technology purposes and the grant that BOCES is developing.

Currently, the state provides categorical aid for the acquisition of hardware and software. There is an annual appropriation within the district budget of approximately \$70,000 for repair, replacement and new purchases. Therefore, through a combination of state aid and general fund resources, approximately \$105,000 is annually available for technology.

Other grant funds have made it possible to purchase technology to meet specific program goals. Recently, funds from the State Pre-kindergarten grant were used to purchase computers with early literacy software and staff development to support that program. State Magnet funds were used to purchase eight similar bundles and provide training at the Morse Young Child Magnet School. The Goals 2000 grant has provided funds for the purchase of various computers, modems and Internet accounts at the elementary level. State Magnet funds will be used to upgrade a Warring file server and provide other upgrades to computers in that building. Title I program funds have been used in the past to provide equipment to support targeted assistance. As more schools move to school wide projects, it is possible that Title I funds will support more general technology acquisitions.

Since the focus of the technology plan is on the integration of technology into the regular instructional program, subsequent grant programs should focus on providing resources and support that will enable technology integration into the curriculum. Alternatively, grant programs will become the means of exploring new and emerging technology on a pilot basis.

Additionally, children receive regular assistance in reading, writing, speaking, and listening during several hours following the close of their regular school day. This assistance takes place within the context of an existing successful after-school program conducted at and by the Poughkeepsie YMCA. The addition of technology in the form of an appropriately equipped computer lab installed recently with funds from TLCF represents a major new addition to the after-school program.

F Involvement of parents, business leaders and community leaders in plan development.

Parents, business persons and community persons have been and will continue to be involved in technology plan development. During the past twelve years, we have had representatives from IBM, Central Hudson and the Poughkeepsie Area Chamber of Commerce serve on various committees involved with planning. Parents and community members, most recently through their participation on the Building Level Teams, have directly advised on the development of technology initiatives at both the district and building level. In 1995, all of the proposals submitted for the internal technology funds were reviewed by Building Level Teams and several parents who are also IBM engineers advised staff on the design and implementation of their programs.

As the technology Task Force continues its planning activities, additional persons from the school community who can represent parental, business and community perspectives will be invited to participate.

G. How the acquired instructionally based technologies will help the district.

A. How acquired technology will help promote equity in education to support State content and student performance standards.

By offering our students, the majority of whom are economically deprived, access to technology at a level consistent presently with only 4% of the schools in the country (Ed Report on Technology and Education , Kirk Winters, Office of the Under secretary of Education, July 1996) we will create a compensatory situation for young people who would otherwise be unlikely to have access in their homes to computer and Internet functions.

Students who have the world opened to them through access to the Internet in schools are at least being provided with a similar benefit to youngsters who have home computers and on-line access. Students who are educated in technology rich environments also demonstrate increased capacity to manage their own learning become better problem-solvers and communicators and to build meaning from research. These constructivist goals are the underpinnings of all of the State standards.

The socio-economic levels of many of our young people demand that the schools offer a rich academic program through extensive, classroom centered access to technology. In this way only will we be able to ameliorate the degrees to which our student population would otherwise be composed of have-nots.

B. How instructional based technologies will improve teacher, parent and student access to the best teaching practices and curriculum resources.

Technology has the potential to open up the educational system to high quality teaching and learning opportunities. Of course, in order to be able to profit from the resources available, staff, parents and students need to know what is available, where they can find it and how to access it. Providing classroom based Internet access will insure that staff will find it easier to explore possibilities on the Internet. A great deal of information has currently been amassed and is being streamlined to make it easier for educators to locate quality simulations, databases, information archives and other centers that can be used to enrich the classroom. Availability at the classroom level means that there is greater chance that the technology will be widely used and that the resources of the world will come into the home and classroom.

As part of the Greystone Project, teachers and administrators, parents, and students will have access to a "web portal" that will allow each group to accomplish a variety of tasks. IBM representatives have collaborated with each group and accumulated information regarding the content of each portal. Teachers will have the ability to send private messages to parents. Also, teachers will have an online log of assignments for each class they teach. Parents will be able to view grading information and attendance records.

H. Process for on-going evaluation

A) How the technologies will be integrated into the curriculum.

Technology must be integrated into the curriculum as both a tool for promoting better learner production and a means of providing students with a large range of learning opportunities to select from in the form of print and graphic materials.

Teacher training should include the use and applications of technology as a core element of the strategy for lesson planning and lesson delivery. All training on curricular items should include technology applications components. Records of various courses can be maintained to determine whether or not this revised focus has been imbued.

In a similar vein, administrators who conduct evaluations can issue expectations to staff that both their lesson plans and lessons observed include either information about technological applications or that administrators see technology employed during lesson delivery. Classroom organization should also reflect a shift away from technology being something that occupies one corner of the room to its being a vital part of the learning exchange by being accessible to students in their regular instructional areas.

B) Will affect student achievement and progress toward meeting the National Standards.

A item that has generated considerable discussion is how to quantify the effects technology usage has on student achievement. People rarely question whether or not writing on the blackboard, having a particular textbook or being given an encyclopedia to use means that student test scores will improve, yet they believe that there should be a demonstrable correlation between technology use and higher test scores.

Technology enables students to reach higher standards in the classroom by encouraging students to become better writers and communicators, more skilled problem solvers and more versatile in their range of media explorations.

Motivation and persistence increase when students are exposed to learning activities for which technology is an integral component. The students understand how they can package their work to produce professional looking pieces and can integrate multi media elements to further demonstrate their understandings.

Through technology, wider worlds are open to students. By having access to an increased range of possibilities, students are encouraged to have higher aspirations for themselves.

I. How will the public libraries be engaged in the planning process?

The school district has a good relationship with the childrens librarian at the Adriance Memorial Library and in many schools, the school librarians and the public library librarians have participated in collaborative projects.

Currently, the Middle School librarian and the Childrens Library librarian are collaborating on open library nights for adolescents.

It is anticipated that the schools and the libraries will develop much common ground in conjunction with the E-rate application process.

J. An explanation of the involvement of site based teams in the development of the plan.

It is our recommendation that the site based team be involved in the development, implementation, and monitoring of the building technology plan. This can only happen if a technology professional is permitted to become a member of the BLT.

If this recommendation cannot be accommodated then we recommend that each building establish and train a school technology team as follows;

The team will be responsible for determining (based on their recommendations) the implementation of the technology plan in each school and providing the staff with ongoing technology planning documents. Plans regarding the following issues will be established by the team:

- Coordination of the use of technology with school/curriculum objectives
- Amount and type of equipment to be obtained
- Topics and scheduling of training sessions
- Periodic assessment of building technology goals

The team should be composed of the following positions/individuals depending on which phase of implementation is in place:

- A. One (1) Computer Teaching Assistant for each school (if available).
- B. One (1) Computer Coordinator per building - to function as team leader, onsite trainer and network administrator.
- C. As many as one (1) classroom teacher from each grade level/subject area/team as appropriate.
- D. Up to three (3) community members with at least two (2) parents.
- E. One school administrator.

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Executive Summary => Introduction => Implementation Plan =>
Bottom-Up Development | Top-Down Dissemination | Infrastructure and Technical
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